



DIME DYNAMIC DOCUMENTATION TRAINING

Intermediate Exercise

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Introduction

This exercise introduces some intermediate concepts in L^AT_EX which are useful for everyday day to day life.

Exercise. Exporting tables

Open **Export tables and images.do** and change the paths on the first section of the do-file so that it matches the folder structure you just created. Then run the do-file. This will export a few tables and graphs to the Raw folder that will be used in the following exercises.

The following should be completed in this exercise:

- Make sure that you export **two tables** and **two graphs** using your own data. For help, you can look at the folder called “Exercise Stata - How to export tables and graph from Stata to LaTeX”.
- Make sure that all the exporting is done using Stata do-files, or R scripts so you can easily export them again by just running the code.
- Import all the tables and figures you have created in step 1 into your L^AT_EX document using the templates provided in the **DIME Templates** sub-folder.
- Make sure you give a caption to your tables.

Intermediate L^AT_EX Exercises

Adding Sections to your document

L^AT_EX automatically formats the document and different section headers and subheaders according to predefined formats. It also automatically creates beautiful **Table of Contents** based on what has been defined as sections and subsections.

Sections can be created using `\section{title}` command. L^AT_EX automatically numbers all the sections in the order you put them. Since, you manually don't specify chapter numbers, you can cut and paste

subsections from the end to the beginning and the numbering will update automatically!

Similarly, subsections can be created using `\subsection{title}` and sub-sub-sections can be created using `\subsubsection{title}`. The subsections will be numbered 1.1 and the subsubsection will be number 1.1.1 if created within the first section. An example is shown in Annex 1.

Note: Sections and subsections can be created using `\section{title}` if you do not want your sections numbered in the document. However, these sections and subsections will not be shown in the table of contents.*

Adding Table of Contents

We can add table of contents to a \LaTeX document by using `\tableofcontents` after beginning the document. An example is shown below:

```
\documentclass[12pts]{article}
```

My Awesome Document

John Doe

```
%opening
```

May 31, 2017

```
\title{My Awesome Document}
```

Contents

```
\author{John Doe}
```

1	This is a test section	2
2	This is the second test section	2
2.1	This is a test subsection	2
2.1.1	This is a test subsubsection	2

```
\begin{document}
```

```
\maketitle
```

```
\tableofcontents
```

```
\newpage
```

Figure 1: Example table of contents generated from our document in Annex 1.

The above \LaTeX code is used to generate table of contents.

Referring to your tables, and figures in a document

In this subsection, we will learn how to reference to a table, or a figure.

To reference tables, or figures, we must give them a label to which we can refer to later. In Exercise 1, we learnt how to import a table/graph. We will now give the table and graph we imported in the previous

exercise a label to make it easy to refer in the document.

Referring to Figures in a document

To add a label to the imported ieograph figure, we just add the lines `\label{fig:Figurename}` inside the `begin` and `end` figure in our codes.

```
\begin{figure}[H]
\includegraphics[width=\textwidth]{../Raw/ieograph.png}
\caption{Add figure title here}
\label{fig:ieograph}
\end{figure}
```

Now to refer to the figure anywhere in the document, you can type `\ref{fig:ieograph}` and it will automatically refer to the figure using the correct number in the document. In our example, if the `ieograph` figure is the fourth one in the document, As you can see in figure `\ref{fig:ieograph}` will appear as As you can see in figure 4, in the document.

Referring to Tables in a document

Similarly for tables, we can also refer to them anywhere in the document using the same method.

First, we need to add a label to the table that has been imported to the document by adding `\label{tab:Tablename}` inside the `begin` and `end` table in our code.

```
\begin{table}[H]
\caption{Add a title to this table}
\input{../Raw/sample_sizes.tex}
\label{tab:samplesize}
\end{table}
```

Now we can refer to the above table in our document by typing `\ref{tab:samplesize}` which will automatically refer to the table using the correct number in the document.

Line Spacing

Now that you have created sections in your document, and added text, you might want to change the spacing between lines. This can be achieved using the **setspace** package.

The steps to change line spacing are as follows:

- Before `\begin{document}`, declare the package you will be using. In this case, `\usepackage{setspace}`. This package controls the line spacing in a L^AT_EX document.

- After using the **setspace** package, you should now specify line spacing which are as follows:

singlespacing This option specifies the document to use one line spacing.

doublespacing This option specifies the document to use two line spacing.

onehalfspacing This option specifies the document to use one and a half line spacing.

```
\usepackage{setspace}
```

```
\doublespacing
```

```
%\onehalfspacing
```

```
%\singlespacing
```

```
\begin{document}
```

```
\maketitle
```

```
\listoftables
```

```
\listoffigures
```

```
\section{Introduction}
```

```
This is the introduction paragraph
```

The **setspace** package can also be used to specify more particular linespacing i.e. 1.7 lines, 2.4 lines etc using the **setstretch** feature but that will be covered in another documents.

Rotating a table landscape

Sometimes the tables are very wide and need to be in landscape format. This can be adjusted using the **adjustbox** package which we have been using for importing tables.

```
\begin{table}[H]
    \caption{Add table title}
    \input{sample_sizes.tex}
    \label{tab:samplesize}
\end{table}
```

To rotate the table to landscape, we can use the `adjustbox` feature with the `angle = 90` option as shown in blue in the code below.

```
\begin{table}[H]
    \caption{Add table title}
    \begin{adjustbox}{angle = 90}
        \input{sample_sizes.tex}
    \end{adjustbox}
    \label{tab:samplesize}
\end{table}
```

This will rotate the table to the specified degree in the final document.

Making a Dynamic Document

Here, we will produce a dynamic document. Please only do this if you have completed up to **Part 5, Task 2** of the exercise.

1. Save the pdf created up to now in a separate location from your `.tex` file.
2. Generate a new treatment for your dataset by dropping some observations, using a different metric to create treatments, etc.
3. Rerun the do-file with the new treatment. Make sure that the tables and graphs you created earlier are overwritten.
4. Now, open the earlier created L^AT_EX file and press *Build and Compile* under the *Tools*.
5. Now if you compare the pdf file you have just generated with the one you saved earlier, you will find that the tables would have updated automatically.

Challenge: Using a do-file to edit a .tex file after exporting it

Note: This is an advanced exercise and you don't have to feel compelled to finish it. This is also best done after finishing all the other exercises in the GitHub repository.

During this part of the exercise, you will learn how to use commands in Stata to format your tables. While tables exported from Stata to L^AT_EX are generally very nice, sometimes they need to be tweaked a little to make them look nicer. So, in this exercise, you'll use the `filefilter` command in Stata to make small changes to the files exported by Stata.

This exercise requires more familiarity with L^AT_EX than the previous. Don't worry if you can't complete it.

Task 1: Run the initial code for exercise 6 in the [Add path and name of do-file](#) do-file. This will create a table with sample sizes for control and treatment groups across regions and in the whole sample. Add this table to the .tex file you created in the previous exercises. How does that look?

Task 2: Open the [Add path and name of tex file](#) .tex file created by Stata. Can you identify the source of the extra spacing?

Task 3: Use the `filefilter` command in Stata to filter out the lines or characters in the fragmented file that create the extra spacing. Import the new .tex file and check how it looks.

Task 4: Repeat task 3 if necessary.

Annex 1 : Creating sections

Commands typed in LaTeX document.

```
\section{This is a test section}
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque
laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi
architecto beatae vitae dicta sunt explicabo.

\section{This is the second test section}

\subsection{This is a test subsection}
Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci
velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam
aliquam quaerat voluptatem.

\subsubsection{This is a test subsubsection}
Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit
laboriosam, nisi ut aliquid ex ea commodi consequatur?
\end{document}
```

Output

1 This is a test section

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo.

2 This is the second test section

2.1 This is a test subsection

Neque porro quisquam est, qui dolorem ipsum quia dolor sit amet, consectetur, adipisci velit, sed quia non numquam eius modi tempora incidunt ut labore et dolore magnam aliquam quaerat voluptatem.

2.1.1 This is a test subsubsection

Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur?

Figure 2: Adding sections and subsections in a LaTeX document